Overwatch ACTD

Sensor / Designating System to Detect, Classify, and Locate Active Weapons in Real-Time to Support Ground Forces Operating in Complex Urban Terrain

U.S. Army Space and Missile Defense Command
Space and Missile Defense Technical Center
Space Technology Directorate

Overwatch ACTD

Overwatch is an approved FY03 Advanced Concept Technology Demonstration (ACTD) sponsored by U.S. Pacific Command (PACOM). Overwatch provides ground forces immediate and precise locations of weapons firings (e.g., snipers, direct fire weapons, mortars). Overwatch leverages the Battlefield Ordnance Awareness (BOA) technology to detect, classify, and locate the flash from weapons that are within the field-of-view of the system. It provides critical near-real time information that ground forces need when deciding to either engage or evade enemy forces while operating in urban and complex terrain. Further, it collects photographic and video evidence for follow-on operations and contributes to the ground common operational picture (COP). This ACTD provides an Initial Operational Capability (IOC) for Overwatch by FY06. Demonstration platforms for the ACTD are the HMMWV for Major System Demonstration 1 (MSD 1) and the USMC Gladiator Unmanned Ground Vehicle (UGV) for MSD 2.

The Overwatch concept integrates the BOA sensor and processor package, a laser range finder/designator, photo/video recorders, GPS receivers, and a military communications system into a HMMWV. A BOA subsystem is used to automatically detect and identify hostile fires. The subsystem also images the target to provide additional confirmation of the target. The laser range finder/designator provides accurate range information to the gunner as well as assists the dismounted forces in locating the enemy. These sensors, collectively, enable the direct fire support element to rapidly locate and identify the type of weapon firings and provide counter fire as required.

Participants: User Sponsor (PACOM); Operational Manager (USARPAC, TRADOC Dismounted Battlespace Battle Lab); Technical Manager (USA SMDC); Transition Manager (PM FLIR and INSCOM).

STARE (Small Tactical Arms Recognition Equipment)

STARE is a U.S. Army SMDC Program that develops the technology building blocks for Overwatch. STARE leverages the Battlefield Ordnance Awareness (BOA) technology to provide an affordable, easy to operate, and responsive reconnaissance and surveillance system. STARE provides tactical commanders real-time combat information by the detection and location of weapon muzzle flashes.

STARE is a six-month effort to produce a militarily useful HMMWV mounted system to be demonstrated in-theater. The STARE demonstration will integrate COTS technologies that will meet the desired capabilities of Combatant Commanders. STARE will integrate a sensor suite on a HMMWV that is optimized for counter targeting of time critical targets and will demonstrate ability for near real-time dissemination and engagement of time critical targets. The designated Combatant Commander will employ the STARE system in a force protection and area surveillance role.

STARE meets a "critical need" by providing real-time information to reduce the risk to warfighters. STARE reduces these risks and enhances mission effectiveness by providing the deployed forces a passive reconnaissance and surveillance system capable of looking over the target area to accurately locate (azimuth and elevation) active weapons that are within the STARE field of view (LOS). In the force protection role, STARE will allow small units (e.g., dismounted infantry platoon, Military Police teams, and long-range surveillance) to develop the situation and then make contact at the time and place of its own choosing.

Battlefield Ordnance Awareness (BOA)

The BOA program is a U.S. Army Science and Technology Objective (STO) initiated in FY96 and completing in FY02. The objective of the STO program was to develop and demonstrate the technology necessary to detect, classify, and locate ordnance events on the battlefield in near real-time. The technical basis of the program was a national program that demonstrated an ability to detect large ordnance events occurring in the battlefield. Post-mission processing and analysis could correlate these events to general weapon events. In November – December 2000, the BOA program successfully demonstrated an airborne capability to detect, classify, and locate tanks and artillery in real time at Aberdeen Proving Ground.

For more information, please contact:

U.S. Army Space and Missile Defense Command
Public Affairs Office
P.O. Box 1500
Huntsville, AL 35807-3801
Phone: 256-955-3887
Fax: 256-955-1214
Email: webmaster@smdc.army.mil
Website: www.smdc.army.mil